



US009012699B2

(12) **United States Patent**
Holladay et al.

(10) **Patent No.:** **US 9,012,699 B2**
(45) **Date of Patent:** **Apr. 21, 2015**

(54) **CHEMICAL PRODUCTION PROCESSES AND SYSTEMS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/274,193**

(22) Filed: **May 9, 2014**

(65) **Prior Publication Data**

US 2014/0249335 A1 Sep. 4, 2014

Related U.S. Application Data

(60) Continuation of application No. 13/892,083, filed on May 10, 2013, now Pat. No. 8,754,266, which is a division of application No. 12/104,394, filed on Apr. 16, 2008, now abandoned.

(51) **Int. Cl.**
C07C 27/00 (2006.01)
C07C 29/132 (2006.01)
C07C 29/60 (2006.01)

(52) **U.S. Cl.**
CPC **C07C 29/132** (2013.01); **C07C 29/60** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

Hydrogenolysis systems are provided that can include a reactor housing an Ru-comprising hydrogenolysis catalyst and wherein the contents of the reactor is maintained at a neutral or acidic pH. Reactant reservoirs within the system can include a polyhydric alcohol compound and a base, wherein a weight ratio of the base to the compound is less than 0.05. Systems also include the product reservoir comprising a hydrogenolyzed polyhydric alcohol compound and salts of organic acids, and wherein the moles of base are substantially equivalent to the moles of salts or organic acids. Processes are provided that can include an Ru-comprising catalyst within a mixture having a neutral or acidic pH. A weight ratio of the base to the compound can be between 0.01 and 0.05 during exposing.

15 Claims, 8 Drawing Sheets